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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,917	03/05/2001	Hossein Izadpanah	HRL080	5536

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TOPE-MCKAY & ASSOCIATES
23852 PACIFIC COAST HIGHWAY #311
MALIBU, CA 90265

EXAMINER

SEDIGHIAN, REZA

ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,917

Applicant(s)

IZADPANAH ET AL.

Examiner

M. R. Sedighian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4. 6) ☐ Other:

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10, 12, 14, 19, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 10, 12, 14, and 22, it is not clear how the controller monitors the transmit and receive strengths of each laser portion and the RF portion. Specification describes (page 4, lines 7-10) each transmission channel has a transmit and receive strength, wherein the controller is configured to monitor the transmit and receive strength of each channel. Specification further describes (page 12, lines 10-12) receiving external weather forecasts and monitoring power reduction based on feedback from another hybrid wireless link 100. It is not clear how the controller is configured to monitor transmit and receive strengths of the laser portion and the RF portion.

As to claim 19, it recites the limitation "the controller of each node" in line 2. There is insufficient antecedent basis for this limitation in the claim.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was

published under Article 21(2) of such treaty in the English language.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 2, 5, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Michael Watson (WO 00/08783).

Regarding claims 1, Watson teaches a node (46, fig. 5) incorporating hybrid radio frequency and optical wireless communication links (page 5, lines 16-18), the node comprising: at least one laser portion for transmitting data (18, 20, fig. 5); at least one radio frequency portion for transmitting data (28, 30, fig. 5); a data receiver (14, 54, fig. 5) for receiving data from a data source (36, fig. 5); and a controller (14, fig. 5) configured to receive data from a data source and connected with the laser portion (18, fig. 5) and the radio frequency portion (28, fig. 5) to allocate portions of the data to be transmitted through the laser portion and the radio frequency portion (page 9, lines 15-23, page 10, lines 1-6).

Regarding claim 2, Watson teaches a binary switch (52, fig. 5) such that the data is transmitted exclusively through either one of the laser portion and the radio frequency portion (page 9, line 23, page 10, lines 1-2).

Regarding claim 5, Watson teaches the laser portion is configured to both transmit and receive (16, fig. 1A) and the radio frequency portion is configured to both transmit and receive (26, fig. 1B).

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Regarding claim 8, Watson teaches the controller is configured as a binary switch (page 10, lines 1-3 and 52, 54, fig. 5).

5. Claims 1, 2, 5, 6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Zavrel (US Patent No: 5,585,953).

Regarding claims 1, Zavrel teaches a node (10, fig. 1) incorporating hybrid radio frequency and optical wireless communication links (col. 1, lines 50-55), the node comprising: at least one laser portion for transmitting data (24, fig. 1); at least one radio frequency portion for transmitting data (12, fig. 1); a data receiver (14, 26, fig. 1) for receiving data from a data source (col. 1, lines 65-67, col. 2, lines 5-8); and a controller (16, fig. 1) configured to receive data from a data source (col. 1, lines 64-65) and connected with the laser portion (24, fig. 1) and the radio frequency portion (12, fig. 1) to allocate portions of the data to be transmitted through the laser portion and the radio frequency portion (col. 2, lines 1-10).

Regarding claim 2, Zavrel teaches the controller (16, fig. 1) is configured as a binary switch (18, 20, fig. 1) such that the data is transmitted exclusively through either one of the laser portion and the radio frequency portion (col. 2, lines 7-11).

Regarding claim 5, Zavrel teaches the laser portion is configured to both transmit and receive (col. 2, lines 1-2) and the radio frequency portion is configured to both transmit and receive (col. 1, lines 21-23).

Regarding claim 6, Zavrel teaches transmitting in multiple channels (col. 1, lines 62-65, col. 4, lines 1-10)

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Regarding claim 8, Zavrel teaches the controller is configured as a binary switch (col. 1, line 63, col. 2, lines 8-11).

6. Claims 1-10 and 15-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Mecherle et al. (US Patent Application Publication No: US 2002/0097468).

Regarding claims 1, Mecherle teaches a node (100, fig. 4) incorporating hybrid radio frequency and optical wireless communication links (col. 5, paragraph 0065), the node comprising: at least one laser portion for transmitting data (110, fig. 4); at least one radio frequency portion for transmitting data (146, fig. 4); a data receiver (142, fig. 4) for receiving data from a data source (143, 144, fig. 4); and a controller (140, fig. 4) configured to receive data from a data source (142, fig. 4) and connected with the laser portion (110, fig. 4) and the radio frequency portion (146, fig. 4) to allocate portions of the data to be transmitted through the laser portion and the radio frequency portion (col. 5, paragraphs 0065, 0066).

Regarding claims 2 and 8, Mecherle teaches a binary switch (col. 5, paragraphs 0065, 0066, col. 7, paragraph 0081 and 140, fig. 4).

Regarding claims 3-4, 7, and 9, Mecherle further teaches the controller (col. 7, paragraph 0082 and 250, fig. 8) receive environmental information (col. 2, paragraph 0024 and col. 6, paragraph 0073) and the data are transmitted based on the environmental information (col. 7, paragraph 0081).

Regarding claims 5-6 and 16, Mecherle teaches the laser portion and the radio frequency portion are configured to both transmit and receive, and to provide a transmission of multiple channels (col. 5, paragraph 0065, col. 7, paragraph 0081 and 110, 120, 146, fig. 4).

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Regarding claims 10, as it is understood in view of above 112 problem, Mecherle further teaches the controller is configured to monitor the transmit and receive strengths and the data to be transmitted are adjusted by the controller based on their transmit and receive strengths (cols. 7, 8, paragraphs 0082, 0083).

Regarding claim 15, Mecherle teaches the laser portion and the radio frequency portion are configured to transmit and receive in tandem (col. 7, paragraph 0081).

7. Claims 18-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark Gerald et al. (Hybrid free space optical/microwave communication networks: A unique solution for ultra high-speed local loop connectivity, LightPointe Communications, Inc. 6-7 November 2000).

Regarding claim 18, Gerald teaches a network incorporating hybrid radio frequency and optical wireless communication links (page 8 and fig. 2), the network comprising a plurality of nodes (page 10 and fig. 4, note that figure 4 shows a plurality of nodes, for example nodes A and B that each incorporates a Microwave backup and a Laser link) each node including a laser portion (optical transceiver in fig. 2), a radio frequency portion (Microwave transceiver in fig. 2), a data receiver and a controller (Network Interface Multiplexer & Switching facility in fig. 2) to receive the data and to allocate portions of data to be transmitted to the laser portion and to the radio frequency portion (page 8, last paragraph).

Regarding claim 19, Gerald teaches a switch (Switching facility in fig. 2) such that the data is transmitted through either one laser portion or radio frequency portion (page 8, last paragraph, lines 7-8).

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Regarding claims 20-21, Gerald teaches receiving environmental information and transmitting the data based on the received environmental information (page 2, first paragraph and page 9 and page 12, second paragraph).

Regarding claim 22, as it is understood in view of above 112 problem, Gerald teaches monitoring of the transmit and receive strengths and transmitting data based on the transmit and receive strength (page 12, first paragraph).

Regarding claim 23, Gerald teaches laser portion and radio frequency portion transmit in multiple channels (page 2, second paragraph and page 3, second paragraph, lines 1-3).

Regarding claim 24, Gerald teaches laser portion and radio frequency portion are configured to transmit and receive in tandem (page 2, lines 3-10).

Regarding claims 25 and 27, Gerald teaches a portion of the network is configured with a ring topology (pages 10-11 and figs. 4, 5, 6, note that figure 4 shows a ring network topology that incorporates Microwave backup with Laser link).

Regarding claims 26 and 28, Gerald teaches a portion of the network is configured as a SONET ring (page 12, lines and fig. 4).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 11-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Mecherle et al. (US Patent Application Publication No: US 2002/0097468) in view of Vowell et al. (US patent No: 5,999,295), or Shibuya (US patent No: 6,509,991).

Regarding claim 11, Mecherle differs from the claimed invention in that Mecherle does not disclose the controller includes a plurality of latches and a logic device to further provide adjustments levels. Vowell teaches an IR transceiver module that includes an IR transmitter and receiver and a communication logic that is coupled to the transceiver to control communication (col. 3, lines 5-8), wherein the communication logic includes state machines, buffers, latches, registers, memories, etc (col. 3, lines 8-10). Likewise, Shibuya teaches a transmit and receive control unit (10, fig. 6) that is comprised of latches (59, 60, 61, fig. 6) and logic devices (62, 63, fig. 6). Therefore, it would have been obvious to a person of ordinary skill in the art that controllers of optical transceivers such as the one used in the system of Mecherle can include latches and logic devices, as it is taught by Vowell or Shibuya to provide monitoring and control functions.

Regarding claims 12 and 14, as it is understood in view of above 112 problem, Mecherle teaches the controller is configured to monitor the transmit and receive strengths and the data to be transmitted are adjusted by the controller based on their transmit and receive strengths (cols. 7, 8, paragraphs 0082, 0083).

Regarding claim 13, Mecherle teaches transmission of multiple channels (col. 5, paragraph 0065, col. 7, paragraph 0081 and 110, 120, 146, fig. 4).

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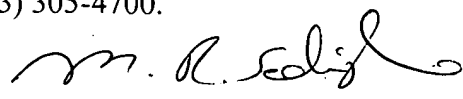
11. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mecherle et al. (US Patent Application Publication No: US 2002/0097468) in view of Driessen et al. (US patent No: 5,936,578).

Regarding claim 17, Mecherle differs from the claimed invention in that Mecherle does not disclose an optical reflector to deflect transmission from the laser portion to work around the fixed objects. Driessen teaches an optical transmission system (fig. 6), wherein an optical reflector is used to deflect transmission from the laser portion to work around fixed objects (col. 6, lines 1-7). As it is taught by Driessen, it would have been obvious to an artisan at the time of invention to incorporate an optical reflector, when transmitting optical signals over a free space, to provide a deflection for the transmitted light around the fixed objects to continue the signal transmission without interruption.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


M. R. SEDI GHIAN
Patent Examiner
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